IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BOARD OF PATENT APPEALS AND INTERFERENCES

In re Patent Application of: Barnett et al	) Examiner: F. Ehichioya & J. Breene
	)
Serial No.: 09/759,498	) Art Unit: 2169
	)
Filed: January 12, 2001	)
	)
For: Multi-Term Frequency Analysis	) Atty Dkt: 6871-105/10024998
	)

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APPEAL BRIEF

Applicants hereby appeal the rejection dated February 20, 2009 in above mentioned application No. 09/759,498. A Notice of Appeal was timely filed and received a filing date of July 20, 2009. The filing fee for an appeal brief has been paid previously in connection with a prior appeal, and enclosed with this filing are any additional fees required due to increases and the necessary extensions.

The following items are included in this Appeal Brief, beginning on the pages set forth below:

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(1)   Real Party in Interest

The Applicants of the above mentioned Application are inventors Phillip W. Barnett, Ashley M. Brook and Joseph Wyse, as indicated in the caption of this Appeal Brief. In February, 2001, each of these named inventors assigned their rights in the Application to PricewaterhouseCoopers LLP, a Delaware limited liability partnership, One North Wacker Drive, Chicago, IL 60606. The Assignment is recorded at Reel/Frame 11644/251. In September, 2004, PricewaterhouseCoopers LLP assigned their rights in the Application to Knowledge Sphere, Inc., an Ohio corporation, 2588 Princeton Road, Cleveland, OH 44118-4350. The September, 2004 Assignment and related documents, are recorded at Reel/Frame 15999/139. PricewaterhouseCoopers LLP has a non-exclusive license in the subject matter of this Application.

(2)   Related Appeals and Interferences

None.

(3)   Status of Claims

Claims 1-138 have been canceled.

Claims 139-158 are pending, on appeal following a prior Decision on Appeal, and have the following status:

Claim 139 is rejected under 35 U.S.C. 102(e) as anticipated by U.S. Patent No. 6,510,406 to Marchisio ("Marchisio").

Claims 140-158 are rejected under 35 U.S.C. 103(a) as unpatentable over Marchisio in view of U.S. Patent No. 5,991,751 to Rivette et al. ("Rivette").

(4)   Status of Amendments

Following Applicants' appeal of the previous rejection of Claims 139-158, the Decision on Appeal, and a later Office Communication, entered a new ground of rejection under 35 USC §101 due to a stated lack of physical subject matter being transformed to a different state or thing. Thereafter, amendments were filed and rejections received, until the §101 rejection was indicated, in an Office Action dated February 20, 2009, as overcome by the amendments made in an Amendment After Final dated April 25, 2008. The claims set forth in the Claims Appendix attached hereto reflect the accepted amendments made in the Amendment After Final dated April 25, 2008.

(5)   Summary of Claimed Subject Matter

Claims 139- 158 of the present invention recite a computer tool for analyses of the results of database searching. Using the tool, analyses of a collection of documents each having a searchable text and associated bibliographic information including a source and a date may be conducted. To use the tool, search results which identify a subset or second collection of documents focused on a particular field is provided to the tool. (Fig. 3, Ref. 3004; and at least at Page 9 beginning at Line 25 through at least Page 10, Line 10.) Documents within the subset are identified as relevant to each of "m" desired types of actions. (Figs. 3 and 4, Refs. 3004 and 4001, respectively; and at least Page 9, Line 11 through at least Page 10, Line 15.) Documents within the subset are also identified as relevant to each of "n" desired types of objects. (Figs. 3 and 4, Refs. 3004 and 4002, respectively; and at least Page 10, Lines 15 through 25.) The "m" actions and "n" objects identified are then combined to construct an "m" by "n" array of "cells", or a matrix, with the contents of each cell being associated only with the documents in the subset

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identified as relevant both to the respective action and to the respective object. (Fig. 4; and at least Page 11 beginning at Line 18.) Within the matrix constructed, at least two scoring metrics are applied to the bibliographic data for the documents associated with each of the cells, such as a time weighted predictive factor. (Fig. 5; and at least Page 11, Lines 1-17.) A graph is also generated which shows each of the applied scoring metrics for each of the matrix cells. (Figs. 4 and 5; and at least Page 12, Lines 4 to 21.)

Specific identification of the structures and functions recited in the specific claims are referenced with respect to the Figures and Specification, both above and as set forth below:

Claim 139: At least Figures 1-3; Page 2 beginning at Line 25; Page 7 beginning at Line 23 through at least Page 9, Line 24; and Page 46 beginning at Line 1 through at least Page 47, Line 23.

Claim 140: At least Page 10, beginning at Line 11 through Page 13, Line 19.

Claim 141: Fig. 8, Refs. 8006, 8007; and at least Page 15, Lines 10 through 13.

Claim 142: Fig. 7, Ref. 7001; and at least Page 13, Lines 20 to 26; and Page 15, beginning at Line 10 through Page 19, Line 19.

Claim 143: At least Page 28 beginning at Line 3.

Claim 144: At least Fig.7, Ref. 7004.

Claim 145: Figs. 9 and 10, Refs. 9000 and 10010, respectively; and at least Page 16 beginning at Line 20 through Page 17, Line 23.

Claim 146: Figs. 8 to 10, Ref. 8007; and at least Page 15 beginning at Line 10.

Claim 147: Figs. 15A to 15E; and at least Page 24 beginning at Line 8.

Claim 148: Fig. 16.

Claim 149: Fig. 18; and at least Page 22 beginning at Line 4.

Claim 150: Figs. 13B, and 16 to 19: and at least Page 22, Lines 4 through 13.

Claim 151: Fig. 5, Ref. 5002; and at least Page 26 beginning at Line 15.

Claim 152: At least Figs. 25B and 26.

Claim 153: At least Page 51, beginning at Line 24.

Claim 154: At least Page 28 beginning at Line 3.

Claim 155: At least Page 22 beginning at Line 14.

Claim 156: Figs. 9, 10, 12, 13; at least Page 16 beginning at Line 20 through Page 20, Line 13.

Claim 157: Figs. 21 to 23.

Claim 158: At least Fig. 16: and at least Page 21 beginning at Line 24.

(6) **Grounds of Rejection to be Reviewed Upon Appeal**

A.   Whether Claim 139 is improperly rejected under 35 U.S.C. 102(e) as anticipated by U.S. Patent No. 6,510,406 to Marchisio?

B.   Whether Claims 140-158 are improperly rejected under 35 U.S.C. 103(a) as unpatentable over Marchisio in view of U.S. Patent No. 5,991751 to Rivette?

(7) <u>**Argument**</u>

    A.   <u>Claim 139 is improperly rejected under 35 U.S.C. 102(e) as anticipated by U.S.</u>

    <u>Patent No. 6,510,406 to Marchisio, and this rejection should be reversed.</u>

    The rejection of Claim 139 as anticipated by Marchisio is in error. "[T]he prior art reference—in order to anticipate under 35 U.S.C. § 102—must not only disclose all elements of the claim within the four corners of the document, but must also disclose those elements 'arranged as in the claim.' Connell v. Sears, Roebuck & Co., 722 F.2d 1542, 1548 (Fed. Cir. 1983)." NetMoneyIN, Inc. v. Verisign, Inc., 545 F.3d 1359, 1371 (Fed. Cir. 2008). Claim 139 recites a computerized tool having the required physical components of computer apparatus, capable of supporting the tool functionality of analyses of a collection of technical documents each having a searchable text and associated bibliographic information including a source and a date. The computer -assisted steps include, performing a search to identify a subset or second collection of documents focused on a particular field, identifying those documents in the subset relevant to each of "m" "actions" and identifying those documents in the subset relevant to each of "n" "objects". The further step of combining each of the "m" actions with each of the "n" objects to construct an "m" by "n" array of "cells", such that each of the cells is associated only with the documents in the subset that were identified as relevant both to the respective action and to the respective object is then conducted. At least two scoring metrics are then applied to the bibliographic data for the documents associated with each of the cells, with at least one of the scoring metrics including a time weighted predictive factor, and generating a graph showing each of the applied scoring metrics for each of the array cells.

    A cursory reading of the Marchisio reference might lead one to erroneously conclude that some elements recited in Claim 139 are found there, but a detailed reading demonstrates many

missing elements, such that Marchisio does not anticipate Claim 139. As previously pointed out, Claim 139 recites the use of "m" "actions" and "n" "objects", where the "m" actions are combined with each of the "n" objects to construct an "m" by "n" array of "cells", and each cell is associated only with the documents in the subset that were identified as relevant both to the respective action and to the respective object. In Marchisio, while a matrix may be disclosed, the Marchisio matrix does not provide the search results classified as "m" "actions" and "n" "objects" as recited in Claim 139. Although the Office Action indicates, at Page 4, that Marchisio teaches the use of the recited actions and objects, and their arrangement in an "m" x "n" array of "cells", this is not the case. Figure 4, which is cited for support, depicts a matrix (described at Col. 11, Lines 6-19) which does have a row with keyword terms. However, the columns provided in the Machisio matrix depict a specific document by number, with each of the cells containing the number of words counted within each specific document. There is no disclosure in Machisio of an "m" by "n" matrix array of the type recited in Claim 139.

Still further, the Office Action, to the extent the comparison is understood, erroneously indicates that the clustering illustrations in Figure 5 (described beginning at Col. 11, Line 20 through Line 46), which depict the documents from Figure 4, somehow equate to the "m" x "n" matrix array in Claim 139. While the clustering illustrations of Figure 5 may provide information which is relevant to the searches being conducted, the elaborate LSI (Latent Semantic Indexing) conducted and illustrated by Marchisio does not provide the recited steps and resultant matrix array of Claim 139. Additionally, while Marchisio does disclose the use of an auxiliary data structure for the storage of date information from the headers of any HTML or XML files (beginning Col. 6, Line 66 through Col. 7, Line 9), the storage of date information is not equivalent to the use of the recited two scoring metrics applied to the bibliographic data for

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documents associated with each of the cells, where at least one of the metrics includes a time weighted factor. At Page 5 of the Office Action, it is erroneously stated (citing Machisio at Col. 7, Lines 10 to 17), that the time weighted predictive factor of Claim 139 is equivalent to the weighting performed in steps 6 and 8 in Marchisio. The weighting of the elements disclosed in Machisio (also at Col. 6, Lines 55 to 65), generally relates to the number of term occurrences, term absence, or other measures of term distributions. Nothing in Marchisio provides for the specific use of a time weighted predictive factor, nor further as one of two required scoring metrics applied to a matrix array. The Marchisio reference fails to disclose or suggest the features and their specific arrangement as recited in Claim 139, and the erroneous anticipation rejection should be reversed.

B.   Claims 140-158 are improperly rejected under 35 U.S.C. §103(a) as unpatentable over Marchisio in view of U.S. Patent No. 5,991,751 to Rivette et al., and this rejection should be reversed.

Claims 140-158 are improperly rejected as obvious over Marchisio in view of Rivette. The erroneous determination of obviousness is revealed after a proper review of: (1) the scope and content of the prior art; (2) the differences between the prior art and the claimed invention; (3) the level of ordinary skill; and (4) any objective indicia of non-obviousness, including secondary considerations such as commercial success, long felt but unsolved needs, unexpected results or the failure of others to arrive at the invention. Graham v. John Deere Co. of Kansas City, 383 U.S. 1(1966); KSR Int'l Co. v. Teleflex, Inc., 550 U.S. 398(2007). The Rivette reference is titled a "system, method and computer program product for patent-centric and group-oriented data processing." The disclosure provides a system, method and program product

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for data processing of a variety of information relevant to patent searching. Clearly the Rivette method and system provides a helpful tool for patent searching, but the tool does not include the elements of the claims of the present application, nor their arrangement. As set forth above, the features of independent Claim 139 are erroneously stated as found in Marchisio. The combination of Rivette with Marchisio does not overcome this error with respect to Claim 139 or Claims 140-158.

As incorrectly stated in the Office Action, at Pages 6-7, one of ordinary skill in the art at the time the invention was made would not have been motivated to combine the specific instances of categories from Rivette with the missing actions and objects in Marchisio, since "the patent citation identifies source patents and citing patents for reference purposes." The Rivette reference essentially provides conducting a single term search and providing search results – all results – in a list, which are provided in a tabular format. The disclosure of Rivette provides for arrangements of data which are in effect tables of contents. How the disclosure of Rivette would be combined with Marchisio's Inverse Inference Engine for High Performance Web Search, which is an elaborate engine for searching and statistical analysis of all documents on the world wide web, obtain Claims 139-158 is not obvious now, and would not have been obvious to one of ordinary skill in the art at the time this invention was made. The combination of Rivette which fails to disclose an "m" action by an "n" object matrix array of cells, with Marchisio, does not result in dependent Claim 140, which recites that the actions and objects of Claim 139 are specific instances of categories selected from the group consisting essentially of products, services, production methods, production applications, technologies, technological applications, chemical compounds, chemical indications, inventors, assignees, forward citations to a key

reference, backward citations to a key reference, and their combinations. The rejection of Claim 140 should be reversed.

Additionally, and as set forth above, dependent Claims 141-144 depend from an erroneously rejected independent claim, and these rejections should likewise be reversed.

Reversal of the erroneous rejections of dependent Claims 145-148 and 155-156 is also in order. These dependent claims recite the use of a specific scoring metric, which is to be used in the "m" by "n" matrix array of Claim 139. Rivette discloses the use of a variety of reporting capabilities, but none are scoring metrics within the recited limitations of the tool of Claims 145-148. Moreover, Claim 145 recites the computerized tool of Claim 144 wherein one of the scoring metrics is an innovation measure which takes into account changes of patent activity over time. The rejection of Claim 145 in view of the citation to Rivette Fig. 66 and Col. 107, Lines 24-48 is in error. The cited Figure 66 and disclosure are directed to a patent aging module, where the remaining life or ages of patents are provided for easy visualization. While the remaining life span of various relevant patents may provide information about the risks of potential infringement, or the necessity of investigating valid patents, it is inaccurate to view the remaining life span of a patent as an innovation measure. A similar error is made with respect to the rejection of Claim 156, where Rivette is represented as disclosing a scoring metric including a composite measure of dominance, innovation and predictive innovation. No such scorning metrics are provided. Neither is a composite measure of such scoring metrics. Reversal of the rejections of Claims 145-148 and 155-156 is requested.

Claims 149, 150, 157 and 158 depend from erroneously rejected Claim 139 and are likewise erroneously rejected as obvious in view of the combination of Marchisio with Rivette.

Reversal of these rejections on the grounds of obviousness is respectfully requested for the reasons set forth above.

C.   <u>Conclusion</u>

A review of the cited references indicates that teachings of certain of the recited features of the claimed invention are not disclosed by the Marchisio or the Rivette patents. Moreover, the combination of Marchisio with Rivette does not render the claimed invention obvious. Applicants' invention in Claims 139-158 is improperly rejected and the rejections should be reversed.

Respectfully Submitted,

Date: January 20, 2009

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Claims Appendix

The claims involved in this appeal are currently pending as follows:

139.   A computerized tool for use on a computer apparatus having input interfaces for receiving information, a memory for storing information and a user interface, configured for facilitating forward looking strategic analyses of a collection of technical documents each having a searchable text and associated bibliographic information including a source and a date, comprising the computer-assisted steps:

performing a first search to identify a subset (second collection) of documents focused on a particular field,

identifying those documents in the subset relevant to each of "m" "actions";

identifying those documents in the subset relevant to each of "n" "objects";

combining each of the "m" actions with each of the "n" objects to construct an "m" x "n" array of "cells", such that each of the cells is associated only with the documents in said subset that were identified as relevant both to the respective action and to the respective object;

applying at least two scoring metrics to the bibliographic data for the documents associated with each of the cells, at least one of the scoring metrics including a time weighted predictive factor; and

generating a graph showing each of the applied scoring metrics for each of the array cells.

140. The computerized tool of claim 139 wherein the actions and objects include specific instances of categories selected from the group consisting essentially of products, services, production methods, production applications, technologies, technological applications, chemical compounds, chemical indications, inventors, assignees, forward citations to a key reference, backward citations to a key reference, and combinations thereof.

141. The computerized tool of claim 140 wherein the documents include both issued patents and not yet issued patent applications.

142. The computerized tool of claim 141 wherein the source information includes patent assignees.

143. The computerized tool of claim 142 wherein the date information includes a filing date.

144. The computerized tool of claim 143 wherein the date information also includes an issue date for the issued patents.

145. The computerized tool of claim 144 wherein one of the scoring metrics includes an innovation measure which takes into account changes of patent activity over time.

146. The computerized tool of claim 144 wherein one of the scoring metrics includes a recent innovation measure which takes into account recently filed patent applications.

147. The computerized tool of claim 144 wherein one of the scoring metrics includes a measure of the relative position of a particular assignee within a particular cell.

148. The computerized tool of claim 142 wherein each scoring metric is focused on a different assignee.

149.   The computerized tool of claim 148 wherein the graph is a spider graph showing each assignee's score for a predetermined number of key cells overlaid over the corresponding scores for at least two other assignees.

150.   The computerized tool of claim 139 wherein the graph displays a visual quantitative comparison for each scoring metric.

151.   The computerized tool of claim 150 wherein some of the cells are grouped into "clusters", and a combined scoring metric is displayed for each cluster.

152.   The computerized tool of claim 139 wherein the bibliographic source information includes the name of a subject person, organization, or event.

153.   The computerized tool of claim 139 wherein the date bibliographic information includes a publication date.

154.   The computerized tool of claim 139 wherein the time weighted predictive factor is based at least in part on a publication, creation, or issue date.

155.   The computerized tool of claim 139 wherein one of the scoring metrics includes a concentration or frequency measure which takes into account distribution of the selected documents among their respective sources.

156.   The computerized tool of claim 139 wherein one of the scoring metrics includes a composite measure of dominance, innovation, and predictive innovation.

157.   The computerized tool of claim 139 wherein the actions and objects are crossed with a third dimension to form a three dimensional matrix.

158.   The computerized tool of claim 139 wherein the graph is a bar graph which each bar showing a particular scoring metric applied to a particular cell.

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EVIDENCE APPENDIX

NONE

RELATED PROCEEDINGS APPENDIX

NONE